CLAIMS:

1. A patient support comprising,

a mattress defining a patient rest surface,

a frame positioned to support the mattress, the frame including a base frame supported by a floor, an intermediate frame positioned over the base frame, a first pair of lift arms coupled together at a first end by a first cross member, and, a second pair of lift arms coupled together at a first end by a second cross member, the first ends of the first pair of lift arms being configured to slide along at least one of the base frame and the intermediate frame, the first ends of the second pair of lift arms being configured to slide along at least one of the base frame and the intermediate frame, and

at least one actuator configured to move the intermediate frame relative to the base frame between first and second positions, during movement of the intermediate between the first and second positions, a distance between the first and second cross members increases to provide clearance for at least one of the intermediate frame and the base frame.

2. The patient support of claim 1, wherein the lift arms slide along the base frame.

3. The patient support of claim 1, wherein the intermediate frame is positioned above the first and second cross members when the intermediate frame is positioned in the first position and the intermediate frame is positioned between the first and second cross members when the intermediate frame is in the second position.

4. The patient support of claim 1, wherein the first pair of lift arms further includes a pair of links extending between the base frame and intermediate frame and a pair of guide links coupled to midpoints of the links and at least one of the base frame and intermediate frame.

5. The patient support of claim 1, wherein the base frame and intermediate frame nests together.

6. The patient support of claim 1, wherein the lift arms are positioned between the intermediate frame and the base frame when the intermediate frame is in the second position.

7. The patient support of claim 1, wherein the first and second cross members extend transversely relative to a longitudinal axis of the frame.

8. The patient support of claim 1, further comprising

means for providing pressurized air to the mattress,

means for blocking egress of a patient from the mattress,

foot control means for operating features of the patient support,

power and control means for providing power and control to the actuator,

rotational support means configured to permit movement of the frame on a floor,

control means for controlling features of the patient support, the control means being removably coupled to the blocking means,

mattress control means for controlling operation of the mattress,

power supply means for providing power to components of the patient support, and

network means for communicating between at least two of the power and control means, the control means, the block means, and mattress control means.

9. A patient support comprising,

a base frame,

an intermediate frame,

a mattress supported by the intermediate frame and defining a patient rest surface, and

a lift mechanism configured to move the intermediate frame between raised and lowered positions relative to the base frame, at least one of the base and intermediate frames defining an interior region in which the other of the at least one of the base and intermediate frames is positioned when the intermediate frame is in the lowered position, at least one of the base and intermediate frames including transverse step members extending from the interior region.

10. The patient support of claim 9, further comprising a weigh frame supported by the intermediate frame and a plurality of load cells supported by the transverse step members.

11. The patient support of claim 9, wherein the intermediate frame includes the transverse step members.

12. The patient support of claim 11, wherein the transverse step members are positioned directly over the base frame.

13. The patient support of claim 12, wherein the base frame includes a pair of longitudinally extending members and the transverse step members are positioned directly over the longitudinally extending members of the base frame.

14. The patient support of claim 9, further comprising a pair of lift arms configured to move the intermediate frame relative to the base frame between raised and lowered positions, the lift arms being positioned in a space defined between longitudinally extending members of the base and intermediate frames when the intermediate frame is in the lowered position.

15. The patient support of claim 9, wherein at least two of the transverse step members extend in opposite directions and at least two of the transverse step members extend in the same direction.

16. A patient support comprising,

a base frame,

an intermediate frame,

a mattress supported by the intermediate frame and defining a patient rest surface, and

a lift mechanism configured to move the intermediate frame between raised and lowered positions relative to the base frame, at least one of the base and intermediate frames defining an interior region in which the other of the at least one of the base and intermediate frames is positioned when the intermediate frame is in the lowered position, the lift mechanism being positioned between the intermediate frame and the base frame when the intermediate frame is in the lowered position.

17. The patient support of claim 16, wherein the base frame and intermediate frames include longitudinally extending members cooperating to define a space therebetween and the lift mechanism is positioned in the space.

18. The patient support of claim 17, wherein the longitudinally extending member of the intermediate frame is spaced apart from a center axis by a first horizontal distance, the longitudinally extending member of the base frame is spaced apart from the center axis by a second horizontal distance, and the lift mechanism is spaced apart from the center axis by a third horizontal distance, the third distance is greater than one of the first and second distances and less than the other of the first and second distances.

19. The patient support of claim 16, wherein the lift mechanism is configured to slide along at least one of the base and intermediate frames during movement of the intermediate frame between the raised and lowered positions.

20. The patient support of claim 16, wherein the intermediate and base frames nest together when the intermediate frame is in the lowered position.

21. The patient support of claim 20, wherein a lower-most portion of the intermediate frame extends below an upper-most portion of the base frame when the intermediate frame is in the lowered position.

22. The patient support of claim 16, wherein portions of the lift mechanism are positioned above the intermediate frame when the intermediate frame is in the lowered position.

23. A patient support comprising,

a base frame,

an intermediate frame,

a mattress defining a patent rest surface, and

a mattress support deck positioned to support the mattress, the mattress support deck including a back section, a seat section, and an extendable foot section, the foot section and seat section cooperating to define a junction, the foot section being coupled to the seat section adjacent a top of the junction to permit movement of the foot section between first and second positions relative to the seat section.

24. The patient support of claim 23, wherein the foot section is pivotably coupled to the seat section to permit movement of the foot section between first and second positions, lower portions of the foot and seat sections are spaced apart by a first distance when the foot section is in the first position and a second distance when the foot section is in the second position, the second distance being greater than the first distance.

25. The patient support of claim 24, wherein the foot and seat sections are substantially coplanar when the foot section is in the second position.

26. The patient support of claim 23, wherein the foot and seat sections have an upper lip, a bottom pan, and a sidewall extending between the upper lip and bottom pan.

27. The patient support of claim 26, wherein the sidewall defines a non-perpendicular angle with the bottom pan.

28. The patient support of claim 26, wherein the upper lips of the foot and seat sections are positioned adjacent the top of the junction.

29. The patient support of claim 24, wherein the foot section includes a first portion pivotably coupled to the seat section and a second portion that slides over the first portion during extension of the foot section.

30. A patient support comprising,

a base frame,

an intermediate frame,

a mattress defining a patent rest surface,

a mattress support deck positioned to support the mattress, the mattress support deck including a back section, a seat section, and a foot section, the foot section and seat section cooperating to define a junction, the foot section being coupled to the seat section adjacent a top of the junction, and

an actuator coupled to one of the seat and foot sections to move the foot section relative to the seat section between first and second positions.

31. The patient support of claim 30, wherein the actuator is coupled to the foot section.

32. The patient support of claim 31, wherein the actuator is coupled to the foot section by a connector including a slot and a pin configured to slide in the slot.

33. The patient support of claim 30, wherein the actuator is pivotably coupled to at least one of the seat and foot sections.

34. The patient support of claim 30, wherein a gap defined between lower sides of the foot and seat sections decreases during extension of the actuator.

35. The patient support of claim 30, wherein the actuator is coupled to the seat section.

36. The patient support of claim 35, further comprising another actuator coupled to the foot section.

37. A patient support comprising,

a base frame,

an intermediate frame,

a mattress defining a patent rest surface, and

a mattress support deck positioned to support the mattress, the mattress support deck including a back section, a seat section, and a foot section, the back

section and seat section cooperating to define a junction, the back section being positioned to pivot about a first pivot adjacent a top of the junction to permit movement of the back section between first and second positions, the seat section being positioned to pivot about a second pivot adjacent the top of the junction to permit movement of the seat section between first and second positions, the first pivot being spaced apart from the second pivot.

38. The patient support of claim 37, further comprising a vertically extending post cooperating with the seat and back sections to define the first and second pivots.

39. The patient support of claim 37, wherein lower portions of the seat and back sections are spaced apart by a first distance when the back section is in the first position and spaced apart by a second distance when the back section is in the second position, the second distance being greater than the first distance.

40. The patient support of claim 39, wherein the seat and back sections are substantially coplanar when each are in the first position.

41. The patient support of claim 37, wherein the seat section includes an upper lip, a bottom pan, and a sidewall extending between the upper lip and bottom pan.

42. The patient support of claim 41, wherein the back section includes an upper lip, a bottom pan, and a sidewall extending between the upper lip and bottom pan.

43. The patient support of claim 42, wherein the upper lip of the back section is positioned adjacent the first pivot and the upper lip of the seat section is positioned adjacent the second pivot.

44. A patient support comprising,

a mattress defining a patient rest surface, and

a frame supporting the mattress, the frame including a head end and a foot end spaced apart from the head end, and a rotatable element positioned on the foot end to engage an obstacle.

45. The patient support of claim 44, wherein the frame includes a base frame and a patient support deck supporting the mattress, the patent support deck includes a back section, a seat section, and a foot section, the rotatable element is supported by the foot section.

46. The patient support of claim 45, wherein the rotatable element is positioned on an underside of the foot section.

47. The patient support of claim 44, wherein the rotatable element is a roller.

48. The patient support of claim 44, wherein the rotatable element is positioned at the lateral center of the frame.

49. The patient support of claim 44, wherein the frame includes a base frame and an intermediate frame supported by the base frame, the base frame is supported on a floor by a plurality of caster wheels, and the rotatable element is positioned below the base frame when a foot end of the intermediate frame is lowered.

50. The patient support of claim 49, wherein the rotatable element contacts the floor when the foot end of the intermediate frame is lowered.

51. In a control system for electrically-powered features of a patient support, a method for activating a backup power source upon demand, the method comprising the steps of:

detecting an interruption of power from a primary power supply configured to power electrically-powered features of a patient support,

activating a backup power source upon detection of the power interruption such that the backup power source is ready to power an electrically-powered feature of the patient support upon demand,

substantially deactivating the backup power source after a predetermined period of time in which no demand is received,

receiving an instruction to reactivate the backup power source from being substantially deactivated,

reactivating the backup power source in response to the reactivate instruction, and

powering an electrically-powered feature of the patient support via the backup power supply.

52. The method of claim 51, wherein the activating step includes the step of providing sufficient power via the backup power source to shut down electrical functions of the patient support in an orderly fashion.

53. The method of claim 51, wherein the substantially deactivating step includes putting electrically-controlled features of the patient support into a sleep mode.

54. The method of claim 51, wherein the electrically-powered feature of the patient support movement of a movable portion of the patient support.

55. The method of claim 54, wherein the electrically-powered feature is movement of a portion of the patient support into position for performing CPR on a patient.

56. The method of claim 51, wherein the substantially deactivating step includes resetting the predetermined period of time if a reactivate instruction is received.

57. The method of claim 51, wherein the reactivate instruction includes an instruction to move a movable portion of the patient support.

58. In a control system for electrically-powered features of a patient support, a primary power source for powering electrically-powered features of the patient support, and a backup power source for powering electrically-powered features of the patient support, an apparatus for activating the backup power source on demand, the apparatus comprising:

an activator coupled to the patient support, the activator when activated providing a signal representing an instruction to activate the backup power source, and

a microprocessor electrically coupled to the activator, the microprocessor being adaptable to detect an interruption of power from the primary power source, activate the backup power source upon detection of the power interruption, substantially deactivate the backup power source after a predetermined period of time, receive the signal from the activator, and reactivate the backup power source in response to the signal from the activator.

59. The apparatus of claim 58, wherein the activator is a momentary switch.

60. The apparatus of claim 58, wherein the activator is coupled to a frame portion of the patient support.

61. The apparatus of claim 58, wherein the activator includes an LED which is illuminated when the backup power source is powered.

62. The apparatus of claim 61, wherein the activator illuminates intermittently when the primary power source is interrupted.

63. The apparatus of claim 61, wherein the activator illuminates intermittently when the backup power source is in need of power.

64. The apparatus of claim 68, further comprising a switching regulator and a relay electrically coupled to the activator.

65. A patient support comprising:

a frame,

a deck supported by the frame,

a mattress supported by the deck,

an actuator configured to move at least one of a portion of the frame and a portion of the deck,

a plurality of electrical foot-operated controls supported by the frame, each of the controls including a control member configured to move between first and second positions, a sensor, and a contact member, when at least one of the control members moves to the first position, the contact member contacts the sensor and the sensor initiates movement of the actuator.

66. The patient support of claim 65, wherein the sensor is a tape switch.

67. The patient support of claim 65, wherein the sensor is a mechanically operated dome switch.

68. The patient support of claim 65, wherein the sensor is a force sensitive sensor configured to provide an output based on the amount of force applied to the sensor.

69. The patient support of claim 68, wherein the sensor is a force sensitive resistor.

70. The patient support of claim 65, wherein the sensor is a contact switch.

71. A patient support comprising,

a frame system positioned on a floor surface, the frame system including a plurality of components,

a mattress supported by the frame system,

an actuator configured to move one of the plurality of components relative to another one of the plurality of components,

a foot pedal configured to control the actuator, the foot pedal being located on the frame system at a first height above the floor surface, the first height defined by a distance which permits a user's foot to contact the foot pedal and the floor simultaneously.

72. The patient support of claim 71, wherein the frame system includes a base frame and the foot pedal is coupled to the base frame, the foot pedal extending below the base frame.

73. A mattress assembly comprising:

a body section;

a foot section coupled to the seat section and configured to move longitudinally relative to the foot section;

a bladder assembly coupled to the foot section;

a fluid fill tube coupled to the bladder assembly and including a portion configured to accommodate longitudinal movement of the foot section relative to the body section.

74. The mattress assembly of claim 73, wherein the portion of the fluid fill tube extends diagonally from proximate a first side of the foot section to proximate a second side of the foot section.

75. A mattress assembly comprising:

an inflatable bladder including opposing first and second ends;

a fill tube coupled proximate the first end of the bladder; and

a sensing port coupled proximate the second end of the bladder.

76. The mattress assembly of claim 75, further comprising a fluid supply coupled to the fill tube, and a pressure sensor coupled to the sensing port.

77. The mattress assembly of claim 75, further comprising a longitudinally extending axis, the inflatable bladder extending longitudinally substantially parallel to the longitudinal axis.

78. The mattress assembly of claim 77, wherein the inflatable bladder comprises a turn assist bladder laterally offset from the longitudinal axis of the mattress.

79. A mattress assembly comprising:

a receiving base having a head end and a foot end and defining a longitudinally extending channel;

a mounting substrate coupled to the receiving base and positioned within the longitudinally extending channel; and

an upper bladder assembly coupled to the mounting substrate.

80. The mattress assembly of claim 79, further comprising a turn assist bladder assembly coupled to the mounting substrate and positioned intermediate the mounting substrate and the upper bladder assembly.

81. The mattress assembly of claim 80, further comprising a filler positioned intermediate the mounting substrate and the turn assist bladder assembly.

82. The mattress assembly of claim 79, wherein the upper bladder assembly includes a head section and a seat section.

83. The mattress assembly of claim 79, wherein the receiving base includes a body section and a foot section configured to move longitudinally relative to the body section.

84. The mattress assembly of claim 83, further comprising a heel bladder assembly supported by the foot section.

85. The mattress assembly of claim 79, wherein the receiving base comprises a foam bucket.

86. The mattress assembly of claim 79, wherein the upper bladder assembly comprises a plurality of laterally extending bladders, each bladder having opposing first and second ends coupled to the mounting substrate.

87. The mattress assembly of claim 86, further comprising upper and lower couplers configured to couple the first and second ends of each bladder to the mounting substrate while providing for relative movement between the bladder and the mounting substrate.

88. The mattress assembly of claim 86, wherein each bladder is independently movable and is separately coupled to the mounting substrate.

89. A mattress assembly comprising:

a base;

a mounting substrate coupled to the base;

a panel supported above the mounting substrate; and

a coupler releasably securing the panel to the base.

90. The mattress assembly of claim 89, wherein the mounting substrate includes a clearance opening, the coupler passing through the clearance opening.

91. The mattress assembly of claim 89, wherein the base comprises a foam bucket including opposing sidewalls, the panel being received within the sidewalls of the bucket.

92. A mattress assembly comprising:

a mounting substrate;

a plurality of inflatable bladders supported above the mounting substrate, each of the bladders including opposing ends;

upper and lower couplers releasably securing each end of the inflatable bladders to the mounting substrate so that each bladder is independently movable.

93. The mattress assembly of claim 92, wherein the upper and lower fasteners are independently movable in response to movement of the bladders relative to the mounting substrate.

94. The mattress assembly of claim 92, wherein each of the bladders includes opposing end portions, a center portion, and hinge portions separating the opposing end portions from the center portion, the end portions configured to pivot about the hinge portions relative to the center portion.

95. The mattress assembly of claim 92, wherein the mounting substrate includes inner and outer mounting members separated by a hinge and configured to couple to the lower and upper couplers, respectively.

96. A mattress assembly configured to be supported on an articulating deck of a bed, the deck including a head section, a seat section, and a foot section, the mattress assembly comprising:

a base including a head end and a foot end; and

a foot anchor including a foot tab operably coupled to the base proximate the foot end of the base, the foot tab configured to cooperate with a portion of the foot section of the deck to couple the mattress assembly to the deck.

97. The mattress assembly of claim 96, further comprising a head anchor including a resilient head tab operably coupled to the base proximate the head end of the base, the head tab configured to cooperate with a portion of the head section of the deck to couple the mattress assembly to the deck.

98. The mattress assembly of claim 97, wherein the foot tab is retained by a foot arm supported by the foot section of the deck and the head tab is retained by a head arm supported by the head section of the deck.

99. The mattress assembly of claim 96, further comprising a bladder assembly operably coupled to the base.

100. The mattress assembly of claim 96, wherein the foot tab comprises a resilient member.

101. A mattress assembly configured to be supported on an articulating deck of a bed, the deck including a head section, a seat section, and a foot section, the mattress assembly comprising:

a base including a head end and a foot end; and

a head anchor including a head tab operably coupled to the base proximate the head end of the base, the head tab configured to cooperate with a portion of the head section of the deck to couple the mattress assembly to the deck.

102. The mattress assembly of claim 101, further comprising a foot anchor including a foot tab operably coupled to the base proximate the head end of the base, the foot tab configured to cooperate with a portion of the foot section of the deck to couple the mattress assembly to the deck.

103. The mattress assembly of claim 102, wherein the foot tab is retained by a foot arm supported by the foot section of the deck and the head tab is retained by a head arm supported by the head section of the deck.

104. The mattress assembly of claim 101, further comprising a bladder assembly operably coupled to the base.

105. The mattress assembly of claim 101, wherein the head tab comprises a resilient member.

106. A mattress assembly comprising:

a base;

a crowning core supported above the base and including opposing side walls, the crowning core including a crowned upper surface extending upwardly from the side walls toward a longitudinal axis.

107. The mattress assembly of claim 106, wherein the base includes a receiving channel receiving the crowning core.

108. The mattress assembly of claim 107, wherein the base and the crowning core are formed of foam.

109. A mattress assembly comprising:

a laterally extending bladder including a center portion, end portions, and hinge portions separating the center portion and the end portions; and

first and second couplings secured to the end portions of the bladder and defining an upper crowning surface.

110. The mattress assembly of claim 109, wherein the upper crowning surface extends upwardly from the end portions toward the center portion.

111. A mattress assembly comprising:

a body section;

a foot section coupled to the body section and including a bladder assembly; and

a foot attachment strap coupling the bladder assembly to the foot section.

112. The mattress assembly of claim 111, further comprising a foot mounting substrate coupled intermediate the bladder assembly and the foot attachment straps.

113. The mattress assembly of claim 111, further comprising a foot section mounting member coupled to a lower surface of the foot section, a center portion of each attachment strap coupled to the foot section mounting member.

114. A mattress assembly comprising:

a body section;

a foot section positioned adjacent the body section; and

a securing substrate coupling the foot section to the body section.

115. The mattress assembly of claim 114, wherein the foot section securing substrate includes a first portion secured to a seat portion of the receiving base above an upper surface thereof, and a second portion secured to a lower surface of the foot section.

116. The mattress assembly of claim 115, wherein the securing substrate is formed from a flexible sheet material.

117. A mattress assembly comprising:

a base including a bottom layer, first and second sidewalls coupled to the bottom layer, and an end wall coupled to at least one of the bottom layer and the first and second sidewalls;

a fluid connector recess formed proximate the end wall; and

at least one fluid connector formed within the fluid connector recess.

118. The mattress assembly of claim 117, further comprising a bottom cover portion coupled to the base, the at least one fluid connector being coupled to the bottom cover portion.

119. A mattress assembly comprising:

a body section; and

a foot section positioned adjacent the body section and including a base portion, the base portion having a plurality of apertures to facilitate compressibility of the foot section in response to longitudinal movement in a direction toward the body section.

120. The mattress assembly of claim 119, the apertures comprising a plurality of slots arranged in a plurality of laterally extending rows.

121. The mattress assembly of claim 120, wherein the individual slots of each row are laterally offset from those slots of longitudinally adjacent rows.

122. A patient support comprising:

a deck;

a manifold connector coupled to the deck and in fluid communication with a fluid supply;

a mattress supported on the deck and including at least one inflatable bladder;

a mattress connector coupled to the mattress and in fluid communication with the at least one inflatable bladder; and

the mattress connector being configured to releasably couple to the manifold connector.

123. The patient support of claim 122, further comprising at least one fastener configured to releasably lock the mattress connector to the mattress connector.

124. The patient support of claim 122, further comprising a mattress sensor configured to detect a connection between the mattress connector and the manifold connector.

125. The patient support of claim 124, wherein the mattress sensor comprises a Hall effect sensor.

126. A mattress assembly comprising:

a body section;

a foot section including a base portion and a receiving recess formed within the base portion; and

a heel pressure relief member received within the receiving recess, the heel pressure relief member including a sleeve and a fiber fill received within the sleeve.

127. The mattress assembly of claim 126, further comprising an opening formed within the sleeve for communicating air therethrough.

128. The mattress assembly of claim 126, wherein the air within the heel pressure relief member is self-regulating in response to force applied to the sleeve by a patient's heels.

129. A mattress assembly comprising:

a base;

a top cover portion supported above the base; and

a bottom cover portion coupled to the top cover portion and including a stress relief zone to reduce stress in the bottom cover portion as a result of pivoting movement of the mattress assembly.

130. The mattress assembly of claim 129, wherein the stress relief zone comprises pleated material.

131. The mattress assembly of claim 129, wherein the base includes a slit to reduce stress in the base as a result of pivoting movement of the mattress assembly.

132. A mattress assembly comprising:

a base;

a cover including a bottom wall;

an access panel formed within the bottom wall; and

a zipper releasably securing the access panel.

133. A method of determining a pressure setting for an inflatable mattress including at least a head zone and a seat zone, the mattress being positioned on a patient support including at least a head section and a seat section, the method comprising the steps of:

determining a weight of a patient positioned on the inflatable mattress;

determining an angle of elevation of the head section relative to the seat section;

selecting the pressure setting based on the weight of the patient and the angle of elevation of the head section;

measuring a pressure of the inflatable mattress;

determining if the pressure of the inflatable mattress is equal to the selected pressure setting;

deflating the inflatable mattress if the pressure is greater than the selected pressure setting;

inflating the inflatable mattress if the pressure is less than the selected pressure setting; and

correcting a pressure in the seat zone based on the angle of elevation.

134. A method of assisting in the turning of a patient supported on a mattress, the method comprising the steps of:

providing a turn assist bladder;

inflating the turn assist bladder;

setting a timer when the turn assist bladder is inflated; and

entering a post turn assist phase upon expiration of a predetermined time period.

135. The method of claim 134, wherein the post turn assist phase comprises the steps of:

providing an upper bladder above the turn assist bladder; and

inflating the upper bladder thereby exerting pressure on the turn assist bladder and facilitating the expulsion of air therefrom.

136. A patient support apparatus, comprising:

a base,

a frame coupled to the base,

a first bladder coupled to the frame,

a second bladder positioned above the first bladder,

an air supply coupled to the first and second bladders, and

means for selectively inflating the first bladder to elevate a portion of the second bladder.

137. The patient support apparatus of claim 136, further comprising means for deflating the first bladder after a predetermined time.

138. A method of assisting in the turning of a patient supported on a mattress, the method comprising the steps of:

providing a turn assist bladder;

inflating the turn assist bladder;

monitoring modes of operation of the mattress; and

stopping the inflation of the turn assist bladder upon detecting the selection of a different mode of operation.

139. The method of claim 138, further comprising the step of entering a post turn assist phase upon detecting the selection of a pressure relief mode or maximum inflate mode.

140. A method of providing a CPR surface on an inflatable mattress including at least a head zone and a seat zone, the mattress being positioned on a patient support including at least a head section and a seat section, the method comprising the steps of:

providing an input to a controller indicating the request for a CPR mode of operation;

inflating the head zone to a predetermined maximum pressure; and

thereafter inflating the seat zone to a predetermined maximum pressure.

141. A method of assisting in the turning of a patient supported on a mattress, the mattress supported on a patient support including at least a head section and a seat section, the method comprising the steps of:

providing a turn assist bladder;

determining an angle of elevation of the head section; and

inflating the turn assist bladder only if the angle of elevation only does not exceed a predetermined value.

142. The method of claim 141, further comprising the step of determining the angle of elevation during regular time intervals during the step of inflating the turn assist bladder.

143. An air mattress control system for a bed including an air mattress supported on a deck and having a plurality of independently controllable air zones, the

deck having a head section and a seat section, the air mattress control system comprising:

a head elevation sensor configured to detect the angular position of the head section of the deck;

a controller operably coupled to the head elevation sensor;

an air supply in fluid communication with the plurality of air zones and coupled to the controller; and

wherein the controller includes a memory having a plurality of pressure tables configured to provide desired pressures within the plurality of air zones, at least some of the desired pressures dependent upon input from the head elevation sensor.

144. The air mattress control system of claim 143, further comprising a patient weight input, at least some of the desired pressures being dependent upon input from the patient weight input.

145. The air mattress control system of claim 143, wherein the controller defines a plurality of modes of operation of the air mattress, at least some of the desired pressures being dependent upon a selected one of the plurality of modes of operation.

146. A mattress assembly comprising:

an air bladder;

a fluid coupling in communication with the air bladder and configured to be coupled to an air supply; and

a mattress sensor operably coupled with the fluid coupling and configured to detect when the fluid coupling provides communication between the air bladder and the air supply.

147. The mattress assembly of claim 146, wherein the mattress sensor comprises a Hall-effect sensor and a magnet configured to generate a magnetic field for detection by the Hall-effect sensor.

148. A fluid coupling comprising:

a first connector in fluid communication with a mattress;

a second connector in fluid communication with an air supply and configured to couple with the first connector for providing fluid communication between the mattress and the air supply;

a sensor operably coupled to at least one of the first connector and the second connector, the sensor configured to detect when the first connector is coupled with the second connector.

149. The fluid coupling of claim 148, wherein the sensor comprises a Hall-effect sensor coupled to one of the first connector and the second connector, and a magnet is coupled to the other of the second connector and the first connector and is configured to generate a magnetic field for detection by the Hall-effect sensor.

150. A control system for a patient support, the control system comprising:

a mattress sensor configured to detect a mattress;

a controller in communication with the mattress sensor and configured to cause the mattress to perform a plurality of functions, the controller configured to deactivate at least some of the plurality of functions when the mattress sensor fails to detect the mattress.

151. A method for determining the weight of a patient supported on a mattress supported on a deck, the method comprising the steps of:

detecting the weight applied to the deck;

detecting the presence of a patient on the mattress; and

based upon the detected weight and the detected patient presence, determining whether a weight offset should be recalculated.

152. The method of claim 151, wherein the weight offset is recalculated if the detected weight minus a stored weight offset is less than zero.

153. The method of claim 151, wherein the weight offset is recalculated if the detected weight minus a stored weight offset is less than a maximum detected offset value and no patient is detected on the mattress.

154. A method for controlling pressure in the seat section of an air mattress supported by the deck of a bed, the method comprising the steps of:

sensing the absence of a force applied by a patient against the head section of the air mattress; and

boosting the pressure in the seat section of the air mattress in response to the absence of the force in the head section of the air mattress.

155. The method of claim 154, further comprising the step of boosting the pressure in the seat section of the air mattress in response to elevation of a head section of the deck.

156. A patient support apparatus, comprising

a frame including a movable head section and a seat section,

a plurality of bladders coupled to at least the seat section of the frame,

an air supply coupled to the plurality of bladders, and

a controller operating to signal the air supply to increase inflation of bladders in the seat section in response to a detection of upward movement of the head section.

157. An air mattress control system for a bed including an air mattress supported on a deck, the deck having a head section and a seat section, the air mattress control system comprising:

a bed scale;

a plurality of patient sensors configured to detect a patient supported on the deck of the bed; and

an air controller in communication with the bed scale and the patient sensors, the air controller configured to control pressure in the air mattress based on input from both the bed scale and the plurality of patient sensors.

158. The air mattress control system of claim 157, wherein the mattress includes a head section and a seat section, and the plurality of patient sensors includes a first patient sensor supported by the head section of the deck and a second patient sensor supported by the seat section of the deck.

159. The air mattress control system of claim 157, wherein the controller is configured to boost the pressure in the seat section of the mattress if the first patient sensor does not detect a patient.

160. A method for determining the weight of a patient supported on a deck of a bed, the method comprising the steps of:

receiving load data from a bed scale operably coupled to the deck;

providing a patient sensor configured to detect when a patient is supported on the deck;

determining an offset weight from the load data from the bed scale when the patient sensor indicates that a patient is not supported by the deck; and

determining a patient weight based on modified load data from the bed scale when the patient sensor indicates that a patient is supported by the deck.

161. A method for controlling pressure of an inflatable bladder of a patient support, comprising the steps of:

determining a size of a patient to be supported by a bladder of a patient support,

calculating a desired pressure for the bladder based on the patient size,

measuring an actual pressure of the bladder,

increasing the pressure of the bladder if the actual pressure is less than the desired pressure, and

decreasing the pressure of the bladder if the actual pressure is greater than the desired pressure.

162. A system for controlling pressure of an inflatable bladder of a patient support, comprising:

means for determining a size of a patient to be supported by a bladder of a patient support,

means for calculating a desired pressure for the bladder based on the patient size,

means for measuring an actual pressure of the bladder,

means for increasing the pressure of the bladder if the actual pressure is less than the desired pressure, and

means for decreasing the pressure of the bladder if the actual pressure is greater than the desired pressure.

163. A patient support comprising:

a base frame;

a deck supported by the base frame;

a mattress supported by the deck and including a turn assist bladder;

an air supply in fluid communication with the turn assist bladder;

a controller operably coupled to the air supply;

a siderail supported by at least one of the frame and the deck, the siderail including a rail member configured to move between a raised position blocking egress of a patient and a lowered position;

a sensor operably coupled to the siderail and the controller, the sensor being configured to detect when the siderail is in at least one of the raised position and the lowered position; and

wherein the controller prevents inflation of the turn assist bladder when the siderail is not in the raised position.

164. The method of claim 163, wherein the siderail is positioned on the side of the patient support toward which the patient will be turned from inflation of the turn assist bladder.

165. A method of determining the weight of a patient supported on a mattress, the mattress being supported on a deck of a patient support, the method comprising the steps of:

receiving input from at least one load cell coupled to the deck;

receiving input from at least one force sensor coupled intermediate the deck and the mattress;

determining if the inputs from the at least one load cell and the at least one force sensor are stable; and

if stable, recalculating the value of the input from the at least one load cell minus the value of an offset.

166. The method of claim 165, further comprising the steps of determining whether conditions are proper to reset the value of the offset, and if so, calculating a new offset.

167. A patient support comprising,

a base frame,

a deck supported by the base frame,

a mattress defining a patient rest surface, the deck supporting the mattress, and

a siderail supported by the frame, the siderail including a rail member and a linkage configured to permit movement of the rail member between a raised position blocking egress of a patient and a lowered position, the rail member including a rail body and a ridge extending away from the rail body to narrow a gap defined between the rail member and the deck.

168. The patient support of claim 167, wherein the deck includes an upper section having a first width and a lower section having a second width, the second width greater that the first width.

169. A patient support comprising,

a frame,

a mattress defining a patient rest surface, the frame supporting the mattress,

a siderail supported by the frame, the siderail including a rail member and a linkage configured to permit movement of the rail member between a raised position blocking egress of a patient and a lowered position, and

a headboard supported by the frame, the headboard including a board body and a protrusion extending toward the board body to narrow a gap defined between the headboard and the rail member.

170. A patient support comprising,

a frame including a deck,

a mattress supported by the deck, and

a siderail including a rail member positioned to block egress of a patient from the mattress and a linkage configured to permit movement of the rail movement between raised and lowered positions, the rail member and the deck cooperate to define a gap therebetween of less than 60 millimeters.

171. A patient support for supporting a patient thereon, the patient support comprising:

a frame having a head end and a foot end, the frame being configured to raise and lower the head end relative to the foot end;

a deck coupled to the frame;

a patient support member positioned adjacent the deck, the patient support member configured to support the patient; and

a controller configured to lower the head end of the frame relative to the foot end of the frame to place the patient support member in a first position in response to the controller receiving an indication that the patient requires CPR.

172. The patient support of claim 171, wherein at least a portion of the patient support is an inflatable support and the controller is further configured to inflate the inflatable support to in response to the indication that the patient requires CPR.

173. The patient support of claim 171, wherein the deck includes a plurality of sections, at least one of the sections configured to be raised or lowered relative to the frame and the controller further configured to raise or lower the at least one

section such that the plurality of sections are generally in a linear relationship in response to the indication that the patient requires CPR.

174. The patient support of claim 173, wherein at least a portion of the patient support is an inflatable support and the controller is further configured to inflate the inflatable support to in response to the indication that the patient requires CPR.

175. A patient support for supporting a patient thereon, the patient support comprising:

a frame having a head end and a foot end, the frame being configured to raise and lower the head end relative to the foot end;

a controller configured to lower the head end of the frame relative to the foot end to place the frame in a first position; and

a first input configured to indicate to the controller to place the frame in the first position, the first input including indicia that is representative of the patient requiring CPR.

176. The patient support of claim 175, wherein the patient support further comprises a patient support member including at least a portion which is an inflatable support member and the controller is further configured to inflate the inflatable support member in response to the indication from the first input.

177. The patient support of claim 175, wherein the patient support further comprises a deck including a plurality of sections, at least one of the sections of the deck configured to be raised or lowered relative to the frame and the controller further configured to raise or lower the at least one section such that the plurality of sections are generally in a linear relationship in response to the indication from the first input.

178. The patient support of claim 177, wherein the patient support further comprises a patient support member including at least a portion which is an inflatable support member and the controller is further configured to inflate the inflatable support member in response to the indication from the first input.

179. The patient support of claim 177, wherein the first input is selected from the group consisting of a pedal, a handle, a button, a lever arm, a switch, a touch screen, and a pad.

180. A patient support, comprising:

a frame;

a deck comprising at least a first section having a first end configured to be elevated relative to frame from a lowered position to an elevated position;

an actuator coupled to the frame and the first section and configured to position the first end of the first section in at least the lowered position and the elevated position, the actuator further configured to allow the first end to freely return to the lowered position from the elevated position; and

a damper configured to resist the movement of the first end as the first end returns to the lowered position from the elevated position.

181. The patient support of claim 181, wherein the damper resists the movement of the first end as the first end returns from the elevated position during a first portion of movement corresponding to the movement from an intermediate position, lower than the elevated position, to the lowered position.

182. The patient support of claim 181, wherein the damper includes a first end coupled to the frame and a second end coupled to the first section, the damper being compressible between an uncompressed state and a compressed state.

183. The patient support of claim 182, wherein the second end of the damper is slidably coupled to an elongated slot in a bracket of first section, such that the second end of the damper is adjacent a first end of the slot and the damper is in the uncompressed state when first section is in the elevated position, such that the second end of the damper is adjacent a second end of the slot and the damper is in the uncompressed state when the first section is in the intermediate position, and such that the damper is in the compressed state when the first section is in the lowered position.

184. A patient support for supporting a patient thereon, the patient support comprising:

a frame including a base frame and an intermediate frame moveably coupled to the base frame, the intermediate frame having a head end and a foot end, the frame being configured to raise and lower the head end relative to the foot end;

a deck coupled to the frame, the deck including at least a first section configured to be raised relative to the frame;

a first input coupled to one of the frame and the deck and having a first state corresponding to an off condition and a second state corresponding to an on condition; and

a controller, wherein when the first input is in the on condition the first section of the deck is freely moveable relative to the frame and the controller is configured to lower the head end of the frame relative to the foot end of the frame.

185. The patient support of claim 184, wherein the patient support further comprises a patient support member at least a portion thereof being an inflatable patient support member and wherein the first input is in the on condition the inflatable patient support member is inflated to an elevated pressure.

186. The patient support of claim 185, wherein when the first input is in the off condition the controller controls the movement of the first section of the deck relative to the frame.

187. A patient support, the patient support comprising:

a frame having a head end and a foot end, the frame being configured to raise and lower the head end relative to the foot end;

a deck coupled to the frame, the deck including at least a first section coupled to the frame and moveable between a first elevated position and a first lowered position and a second section coupled to the frame and moveable between a second elevated position and a second lowered position; and

a controller configured to lower the head end of the frame relative to the foot end and to lower the second section to the second lowered position in response to an indication from a first input that the first section is being manually lowered to the first lowered position.

188. A patient support, comprising:

a frame having a head end and a foot end;

a deck supported by the frame;

a mattress supported by the deck;

a first pair of caster devices positioned to support the head end of the frame and coupled to the frame;

a second pair of caster devices positioned to support the foot end of the frame and coupled to the frame, each of the first and second pairs of caster devices including a braking mechanism configured to brake the respective caster device; and

a plurality of links configured to coordinate operation of the braking devices of the first and second pairs of caster devices, each of the respective caster devices being coupled to at least two additional caster devices.

189. A patient support comprising,

a frame,

a mattress supported by the frame, and

a siderail supported by the frame, the siderail including a rail member and a linkage configured to permit raising and lowering of the rail member, and a latch configured to retain the rail member in the at least one of the raised and lowered positions.

190. The patient support of claim 189, wherein the latch includes a pair of latch members that move between latched an unlatched positions.

191. The patient support of claim 190, wherein, the latch members move toward and away from each other during movement between the positions.

192. The patient support of claim 189, wherein the latch includes a latch member that moves along a longitudinal path.

193. The patient support of claim 189, wherein the latch includes a latch member, a handle, and a rocker arm, the handle is configured to rotate the rocker arm about a pivot axis, and the rocker arm is configured to move the latch member between latched and unlatched positions.

194. The patient support of claim 189, wherein the latch includes a latch member and a handle configured to provide movement of the latch member between latched and unlatched position, the handle slides along a linear path to provide the movement of the latch member.

195. A patient support comprising,

a frame,

a pneumatic device, and

a pump supported by the frame and in communication with the pneumatic device, the pump including a pump unit, a first inlet, and a second inlet, air being drawing along a path from the first inlet to the second inlet along a non-liner path to prevent liquid spray from entering the second inlet.

196. A patient support comprising,

a frame,

a fluid operated device, and

a pump supported by the frame and in communication with the fluid operated device, the pump including a pump housing defining an interior region and a

pump unit positioned in the pump housing, the pump housing including an aperture and a seal positioned to block fluids from entering the interior region through the aperture.

197. The patient support of claim 196, wherein the pump housing includes first and second housing components and the seal is positioned between the first and second housing components.

198. The patient support of claim 196, wherein the pump unit further includes a tube extending through the aperture and the seal is positioned between the tube and the pump housing.

199. A patient support comprising,

a mattress defining a patient rest surface,

a frame supporting the mattress, and

a pump supported by the frame, the pump including an pump unit configured to provide pressurized fluid, and an elastic member positioned between the pump unit and the frame.

200. The patient support of claim 199, wherein the pump assembly further includes a pump support coupled to the frame, the elastic member is positioned between the pump support and the frame.

201. The patient support of claim 200, wherein the pump further includes a support coupled to the frame and a housing defining an interior region, the pump unit is positioned in the interior region of the housing, and the elastic member is positioned between the support and the housing.

202. The patient support of claim 200, wherein the pump further includes a housing defining an interior region and a support positioned in the interior region of the housing, the pump unit is supported by the support in the interior region of the housing, the elastic member is positioned between the support and the pump unit.

203. A patient support comprising,

a frame,

a mattress supported by the frame,

a siderail, and

a controller including a housing and a retainer positioned to removably couple the controller to the siderail, the retainer including a curved surface moveable

relative to the housing to engage the siderail during coupling of the controller to the siderail.

204. A patient support comprising,

a frame,

a mattress supported by the frame,

a siderail, and

a controller including a housing and a retainer positioned to removably couple the controller to the siderail, the retainer being positioned to slide relative to the housing between coupled and uncoupled positions.

205. A patient support comprising,

a frame,

a mattress supported by the frame,

a siderail, and

a controller including a housing and a retainer positioned to removably couple the controller to the siderail, the retainer being moveable between a first position permitting removal of the controller from the siderail and a second position blocking removal of the siderail from the siderail, the controller further including a blocker positioned to block movement of the retainer from the second position.

206. A patient support comprising,

a frame,

a mattress supported by the frame,

a siderail, and

a controller having first and second components sealed together by a resilient member to block liquid from entering an interior region defined between the first and second components.

207. A patient support comprising,

a frame,

a mattress supported by the frame, and

a siderail having first and second components sealed together by a resilient member to block liquid from entering an interior region defined between the first and second components.

208. A system for controlling movement of a movable section of a patient support, the system comprising:

an actuator coupled to a movable section of a patient support,

a motor coupled to the actuator, the motor being operable to drive the actuator to move the movable section of the patient support,

a housing covering the motor,

a position detector located in the housing, the position detector being electrically coupled to the motor, and

a microcontroller electrically coupled to the position detector, the microcontroller being operable to process actual actuator position information obtained by the position detector, determine whether the actual actuator position has reached a maximum position, and send a signal to the motor if the actuator has reached the maximum position.

209. The system of claim 208, wherein the microcontroller comprises a memory, and the maximum position is stored in the memory.

210. The system of claim 208, wherein the maximum position is predetermined based on anticipated hysteresis of the actuator.

211. The system of claim 208, wherein the maximum position is less than a mechanical end of travel of the actuator and the maximum position is less than an electrical end of travel of the actuator.

212. The system of claim 208, wherein the microcontroller further comprises a timer, the timer is operable to count a period of time, the microcontroller obtains the actual actuator position information from the position detector periodically during the period of time and the microcontroller compares the actual actuator position to the maximum position.

213. The system of claim 208, wherein the microcontroller is further operable to determine the maximum position based on a function of the movable section of the patient support.

214. The system of claim 208, wherein the movable section of the patient support is at least one of a seat section and a foot section, and the maximum position is defined as a zero position of the movable section of the patient support.

215. The system of claim 214, wherein the microcontroller comprises a timer, the timer starts to count a period of time upon determination that the maximum position has been reached, and the microcontroller is operable to cause the patient support to move into an emergency position upon expiration of the period of time.

216. The system of claim 208, wherein the position detector is a tiometer and the actual actuator position is determined by counting a number of ıtions of the motor during operation of the motor.

217. The system of claim 208, wherein the microcontroller comprises a ›ry, an initial actuator position is stored in the memory, and the actual actuator on is determined based on the initial actuator position.

218. The system of claim 208, wherein the position detector is a uometer, the microcontroller obtains a voltage reading of the potentiometer the actuator is in an extended position, and the maximum position is determined ›tracting a predetermined amount from the voltage reading of the potentiometer

219. The system of claim 218, wherein the predetermined amount is a ıtage of a stroke length of the actuator.

220. The system of claim 208, wherein the microcontroller is operable to nine the maximum position based on at least one of a height of the patient rt and an angle of the movable section of the patient support.

221. The system of claim 208, wherein the microcontroller is further ›le to determine a rate of change of position of the actuator, compare the rate of e of position to a predetermined maximum rate of change of position, and send al to the motor if the rate of change of position reaches the maximum rate of e of position.

222. The system of claim 208, wherein the signal sent by the controller to the motor includes an instruction to begin moving the movable n of the patient support in an opposite direction.

223. A system for controlling movement of a movable section of a patient rt, the system comprising:

an actuator coupled to a movable section of a patient support, the or being operable to move the movable section of the patient support in ıse to an actuator signal,

a signal detector coupled to the actuator, the signal detector being ›le to detect the actuator signal, and

a microcontroller electrically coupled to the signal detector, the ontroller including a memory and a timer, the memory being operable to store ımum run time for the actuator, the microcontroller being operable to start the

timer in response to an actuator signal, monitor actual run time of the actuator, and send a fault condition signal to the actuator if the actual run time reaches the maximum run time.

224. The system of claim 223, wherein the maximum run time is predetermined in accordance with specifications of the actuator manufacturer.

225. The system of claim 223, wherein the maximum run time is predetermined in accordance with a predetermined function of the actuator.

226. The system of claim 225, wherein the patient support includes a head section and the predetermined function of the actuator is movement of the head section.

227. The system of claim 223, further comprising a motor and a current detector coupled to the motor, the current detector being operable to measure current used by the motor, and the microcontroller being operable to increment the timer by an amount based on the measured current.

228. The system of claim 227, wherein the microcontroller increments the timer by a greater amount if the measured current is high and the microcontroller increments the timer by a lesser amount if the measured current is low.

229. The system of claim 227, wherein the microcontroller decrements the timer by an amount corresponding to a rate of heat transfer if the motor has stopped running.

230. The system of claim 229, wherein the decrement amount corresponds to the amount by which the timer has previously been incremented.

231. The system of claim 223, wherein the microcontroller is operable to permit operation of the actuator in response to an instruction to move the patient support into a CPR position even if the actual run time reaches the maximum run time.

232. The system of claim 223, wherein the fault condition signal includes an instruction to at least temporarily cease operation of the actuator.

233. The system of claim 232, wherein the microcontroller is operable to restart operation of the actuator after elapse of a period of time.

234. The system of claim 233, wherein the period of time is predetermined based on the maximum run time.

235. A system for controlling movement of a movable section of a patient support, the system comprising:

an actuator coupled to a movable section of a patient support,

a motor coupled to the actuator, the motor being operable to drive the actuator to move the movable section of the patient support,

a housing covering the motor,

a thermal detector located in the housing, the thermal detector being operable to measure temperature inside the housing, and

a microcontroller electrically coupled to the thermal detector, the microcontroller including a memory, the memory being operable to store a maximum temperature for the motor, the microcontroller being operable to monitor actual temperature of the motor during operation, and send a fault condition signal to the motor if the actual temperature reaches the maximum temperature.

236. The system of claim 235, wherein the maximum temperature is predetermined based on specifications provided by a manufacturer of the motor.

237. The system of claim 235, wherein the fault condition signal includes an instruction to at least temporarily suspend operation of the motor.

238. The system of claim 235, wherein the fault condition signal includes an instruction to at least temporarily decrease current supplied to the motor.

239. The system of claim 235, wherein the microcontroller is operable to send a communication to a caregiver if the maximum temperature is reached.

240. A patient support, including:

a frame;

a deck coupled to the frame for supporting a patient;

a masterless communication network;

a plurality of modules connected to the network, each module being configured to perform a dedicated function during operation of the patient support, and to transmit a message over the network for receipt by any of the other modules, the message including an identifier for use by the other modules in determining whether to process the message.

241. The patient support of claim 240, wherein the network includes a serial bus.

241. The patient support of claim 240, wherein the network is a controller area network.

242. The patient support of claim 240, wherein each module includes a transceiver and a processor.

243. The patient support of claim 240, wherein each module periodically transmits a status message over the network to indicate the operational status of the module.

244. The patient support of claim 240, wherein at least two modules can simultaneously access the network.

245. The patient support of claim 240, wherein the message is broadcast to all of the plurality of modules except the module transmitting the message.

246. The patient support of claim 240, wherein the network is configured such that the plurality of modules automatically detect an addition of a new module to the network.

247. The patient support of claim 240, wherein one of the modules is a communications module coupled to an interface to transmit signals received from other modules to a remote location.

248. The patient support of claim 240, wherein one of the modules is electrically coupled to a motor configured to position a section of the deck and a sensor configured to provide a signal indicative of a position of the deck, the one module monitoring the position of the deck section based on the position signal, and controlling the position of the deck section by operating the motor.

249. The patient support of claim 240, further including a test module that functions as a master module when connected to the network, the test module being configured to transmit a message over the network to a selected other module to test a function of the selected other module.

250. The patient support of claim 240, wherein the patient support includes an inflatable mattress and an air pump coupled to the mattress, one of the modules being configured to provide a control signal to the air pump in response to message transmitted over the network to selectively inflate and deflate the mattress.

251. The patient support of claim 240, wherein the patient support includes a weigh frame for measuring the weight of a patient on the patient support and outputting a signal indicative of the weight of the patient, one of the modules being a

scale module configured to receive the signal and provide a message over the network indicating the weight of the patient.

252. The patient support of claim 240, wherein the patient support includes an interference detection device configured to output a signal indicating the presence of an obstruction to positioning the patient support, one of the modules being configured to receive the signal and provide a message over the network to another one of the modules, the message including information indicating the presence of the obstacle.

253. The patient support of claim 240, wherein the other module prevents the positioning of the patient support.

254. The patient support of claim 240, wherein the network includes an application layer that complies with the CANopen communication protocol.